

## CLAIMS

1. A method for monitoring a laser machining operation to be performed on a work piece, in which the following steps are performed for quality assurance:

- selection of a given field of observation in the region of the interaction zone between laser beam and work piece,

- detection of radiation coming from the selected field of observation with a radiation-sensitive receiver which delivers an electrical signal corresponding to the detected radiation,

- filtering of the electrical signal in order to be able to detect rapid and/or short, fault-related changes in intensity of the detected radiation, and

- evaluation of the filtered electrical signal for the detection of faults during the laser machining operation.

2. The method according to claim 1, characterized in that for the selection of a given field of operation, the interaction zone is projected onto a stop arranged in front of the radiation-sensitive receiver.

3. The method according to claim 1, wherein a spectral sensitivity of the radiation-sensitive receiver is fixed according to the selected field of observation.

4. The method according to claim 1, wherein the electrical signal is subjected to high-pass filtering.

5. The method according to any of the preceding claims, wherein the filtered electrical signal is compared with stored values of a perfect machining operation in order to detect smaller faults such as small splittings or splashed as well as small holes.